

account, the DBMS 109 may retrieve certain products (identified by product ID) from the information account 110, or may retrieve a set of data elements filtered according to a vendor ID or an application ID. If consumer information is retrieved according to products, an iterative lightweight transfer ("LWT") process may be performed at step 712 in order to get the best set of data elements for each new product ID. Otherwise, the consumer information elements are retrieved from the data repository 102 using appropriate filters at step 714.

[0072] Once the DBMS 109 has retrieved the relevant consumer information, the consumer information elements may be merged (if appropriate), decrypted (if appropriate) and/or further filtered (if appropriate) at step 716. Then, at step 718, the resulting information elements are transmitted to the vendor server 114, for example, in the form of an XML data stream. The vendor server 114 receives and processes the consumer information elements at step 720. After processing the consumer information, the vendor server 114 transmits a delivery receipt acknowledgment to the host server 108 at step 722. The host server 108 may then pass an acknowledgment (success or failure) to the consumer (e.g., to the wireless client device 104a or to another client device 104) at step 724. The exemplary generalized interaction diagram then ends at step 726.

From a reading of the description above pertaining to the disclosed embodiments of the present invention, many other modifications, features, embodiments and operating environments of the present invention will become evident to those of skill in the art. It should be appreciated that many features and aspects of the present invention were described above by way of example only and are therefore not intended to be interpreted as required or essential elements of the invention. It should be understood, therefore, that the foregoing relates only to certain exemplary embodiments of the invention, and that numerous changes and additions may be made thereto without departing from the spirit and scope of the invention as defined by any appended claims.

CLAIMS

We claim:

1. A computer-implemented method for storing, managing and distributing consumer information via a distributed electronic network, the method comprising the steps of:

storing an information account in a central data repository accessible via the distributed electronic network, the information account comprising a plurality of consumer information elements associated with a consumer and being subject to the consumer's control and management;

receiving, over the distributed electronic network, a request from a network device for one or more selected consumer information elements, the request including consumer authentication information and being made by the network device responsive to an input command supplied by the consumer; and

in response to the request, authenticating the consumer based on the authentication information, retrieving the selected consumer information elements from the information account, and transmitting the selected consumer information elements, over the distributed electronic network, to the network device.

2. The method of claim 1, wherein the request is made while the consumer accesses a first web page file; and

wherein the method further comprises the step of invoking, in response to successful authentication of the consumer, a single sign-on mechanism so that the consumer will not be required to resubmit the consumer authentication information, prior to occurrence of a terminating event, upon accessing a subsequent web page file and requesting additional selected consumer information elements.

3. The method of claim 2, wherein said terminating event comprises expiration of a time-out period.

4. The method of claim 1, wherein the network device comprises a client device executing a browser; and

wherein the method further comprises the step of, prior to receiving the request from the network device for the selected consumer information elements, transmitting to the network device a temporary client-side application configured to manage the request/response process for the network device.

5. The method of claim 4, wherein the browser displays a web page file that has been retrieved from a vendor server, the web page file including an

instruction that causes the browser to request transmission of the client-side application.

6. The method of claim 4, wherein the client-side application executes a communication protocol for communicating with a database management system that manages the central data repository.

7. The method of claim 4, wherein the client-side application receives the selected consumer information elements and integrates the selected consumer information elements into a vendor's business process on behalf of the consumer.

8. The method of claim 7, wherein the step of integrating the selected consumer information elements into a vendor's business process further comprises the steps of:

auto-populating the selected consumer information elements into at least one input field of a web page file that has been received from a vendor server; and

allowing the consumer to interact with the browser in order to submit the web page file that has been auto-populated with the selected consumer information elements to the vendor server for processing of the selected consumer information elements.

9. The method of claim 8, wherein the consumer edits at least one of the auto-populated selected consumer information elements before submitting the web-page file to the vendor server;

wherein the client-side application detects that the at least one auto-populated selected consumer information elements has been edited; and

wherein the client-side application transmits the at least one edited auto-populated selected consumer information elements to the information account for updating of the information account.

10. The method of claim 8, wherein the consumer inputs at least one additional consumer information element before submitting the web page file to the vendor server;

wherein the client-side application detects that the at least one additional consumer information element has been input; and

wherein the client-side application transmits the at least one additional consumer information element to the information account for storage.

11. The method of claim 4, wherein the selected consumer information elements are transmitted to the network device in an encrypted format; and wherein the client-side application decrypts the selected consumer information elements.

12. The method of claim 4, wherein the selected consumer information elements are transmitted to the client-side application in a decrypted format via a secure network connection.

13. The method of claim 1, wherein the network device comprises a vendor server interacting with a client device, the vendor server executing a server-side application for interacting with a database management system that manages the central data repository.

14. The method of claim 13, wherein the selected consumer information elements are transmitted to the network device in an encrypted format; and wherein the server-side application decrypts the selected consumer information elements.

15. The method of claim 13, wherein the selected consumer information elements are transmitted to the server-side application in a decrypted format via a secure network connection.

16. The method of claim 13, wherein the server-side application receives the selected consumer information elements from the database management system and integrates the selected consumer information elements into a vendor's business process on behalf of the consumer.

17. The method of claim 16, wherein integrating the selected consumer information elements into the vendor's business process comprises:

auto-populating the selected consumer information elements into at least one input field of the web page file;

transmitting the auto-populated web page file to the browser for display to the consumer; and

in response to a submit command received from the browser, passing the selected consumer information elements to a processing module executed by the vendor server.

18. The method of claim 17, wherein the consumer edits at least one of the auto-populated selected consumer information elements before issuing the submit command;

wherein the server-side application detects that the at least one auto-populated selected consumer information elements has been edited; and

wherein the server-side application transmits the at least one edited auto-populated selected consumer information elements to the information account for updating of the information account.

19. The method of claim 17, wherein the consumer inputs at least one additional consumer information element before issuing the submit command;

wherein the server-side application detects that the at least one additional consumer information element has been input; and

wherein the server-side application transmits the at least one additional consumer information element to the information account for storage.

20. The method of claim 1, wherein the consumer information elements are stored in the central data repository in a tagged data format.

21. The method of claim 20, wherein retrieving the selected consumer information elements from the information account comprising filtering the consumer information elements of the information account using at least one style sheet.

22. The method of claim 1, further comprising:

in response to transmitting the selected consumer information elements to the network device, receiving an acknowledgment from the network device indicating

[illegible][illegible][illegible]

24. A computer-readable medium having stored thereon computer-executable instructions for storing, managing and distributing consumer information via a distributed electronic network, by causing one or more processors to perform the steps of:

storing an information account in a central data repository accessible via the distributed electronic network, the information account comprising a plurality of consumer information elements associated with a consumer and being subject to the consumer's control and management;

receiving, over the distributed electronic network, a request from a network device for one or more selected consumer information elements, the request including consumer authentication information and being made by the network device responsive to an input command supplied by the consumer; and

in response to the request, authenticating the consumer based on the authentication information, retrieving the selected consumer information elements from the information account, and transmitting the selected consumer information elements, over the distributed electronic network, to the network device.

25. The computer-readable medium of claim 24, wherein the network device comprises a client device executing a browser, and wherein said computer-executable instructions further cause the one or more processors to perform the step of, prior to receiving the request from the network device for the selected consumer information elements, transmitting to the network device a temporary client-side application configured to manage the request/response process for the network device.

26. The computer-readable medium of claim 25, wherein said computer-executable instructions further cause the one or more processors to perform the step of causing the browser displays a web page file that has been retrieved from a vendor server, the web page file including an instruction that causes the browser to request transmission of the client-side application.

27. The computer-readable medium of claim 25, wherein said computer-executable instructions further cause the one or more processors to perform the step of causing the client-side application to receive the selected consumer information

elements and integrate the selected consumer information elements into a vendor's business process on behalf of the consumer.

28. The computer-readable medium of claim 27, wherein said computer-executable instructions which cause the one or more processors to perform the step of integrating the selected consumer information elements into the vendor's business process further comprise computer-executable instructions which cause the one or more processors to perform the steps of:

auto-populating the selected consumer information elements into at least one input field of the web page file; and

allowing the consumer to interact with the browser in order to submit the web page file that has been auto-populated with the selected consumer information elements to the vendor server for processing of the selected consumer information elements.

29. The computer-readable medium of claim 28, wherein said computer-executable instructions further cause the one or more processors to perform the steps of:

allowing the consumer to edit at least one of the auto-populated selected consumer information elements before submitting the web-page file to the vendor server;

causing the client-side application to detect that the at least one auto-populated selected consumer information elements has been edited; and

causing the client-side application to transmit the at least one edited auto-populated selected consumer information elements to the information account for updating of the information account.

30. The computer-readable medium of claim 28, wherein said computer-executable instructions further cause the one or more processors to perform the steps of:

allowing the consumer to input at least one additional consumer information element before submitting the web page file to the vendor server;

causing the client-side application to detect that the at least one additional consumer information element has been input; and

causing the client-side application to transmit the at least one additional consumer information element to the information account for storage.

31. The computer-readable medium of claim 28, wherein the network device comprises a vendor server interacting with a client device, and wherein said computer-executable instructions further cause the one or more processors to perform the step of causing the vendor server to execute a server-side application for interacting with a database management system that manages the central data repository.

32. The computer-readable medium of claim 31, wherein said computer-executable instructions further cause the one or more processors to perform the step of causing the server-side application to receive the selected consumer information elements from the database management system and to integrate the selected consumer information elements into a vendor's business process on behalf of the consumer.

33. The computer-readable medium of claim 32, wherein said computer-executable instructions which cause the one or more processors to perform the step of integrating the selected consumer information elements into the vendor's business process further comprise computer-executable instructions which cause the one or more processors to perform the steps of:

auto-populating the selected consumer information elements into at least one input field of the web page file;

transmitting the auto-populated web page file to the browser for display to the consumer; and

in response to a submit command received from the browser, passing the selected consumer information elements to a processing module executed by the vendor server.

34. The computer-readable medium of claim 33, wherein said computer-executable instructions further cause the one or more processors to perform the steps of:

allowing the consumer to edit at least one of the auto-populated selected consumer information elements before issuing the submit command;

causing the server-side application to detect that the at least one auto-populated selected consumer information elements has been edited; and

causing the server-side application to transmit the at least one edited auto-populated selected consumer information elements to the information account for updating of the information account.

35. The computer-readable medium of claim 33, wherein said computer-executable instructions further cause the one or more processors to perform the steps of:

allowing the consumer to input at least one additional consumer information element before issuing the submit command;

causing the server-side application to detect that the at least one additional consumer information element has been input; and

causing the server-side application to transmit the at least one additional consumer information element to the information account for storage.

36. A computer-implemented method for storing, managing and distributing consumer information via a distributed electronic network, the method comprising the steps of:

hosting a web page file accessible via the distributed electronic network by a client device executing a browser, the web page file prompting a consumer to input selected consumer information elements; and

executing a server-side application configured for communication with a host server that hosts a central data repository, the server-side application operable to:

determine the selected consumer information elements that are to be input into the web page file by the consumer,

transmit a request to the host server for retrieval of the selected consumer information elements from an information account associated with the consumer, and

in response to receiving the selected consumer information elements from the host server, passing the selected consumer information elements to a processing module for processing.

37. A computer-readable medium having stored thereon computer-executable instructions for performing the method of claim 36.

38. The method of claim 36, further comprising, prior to passing the selected consumer information elements to the processing module, auto-populating the selected consumer information elements into input fields of the web page file for display to the consumer via the browser; and

receiving a submit command from the browser indicating the consumer's desire to pass the selected consumer information elements to the processing module for processing.

39. The method of claim 38, wherein the consumer edits at least one of the auto-populated consumer information elements;

wherein the server-side application detects that the at least one auto-populated consumer information elements has been edited; and

wherein, in response to the update command issued by the consumer, the server-side application transmits the at least one edited auto-populated consumer information elements to the host server for updating of the information account.

40. A computer-readable medium having stored thereon computer-executable instructions for performing the method of claim 39.

41. The method of claim 36, wherein the server-side application causes a login interface to be displayed to the consumer via the browser for the input of consumer authentication information; and

wherein the server-side application detects the input of the consumer authentication information and transmits the consumer authentication information to the host server for authentication of the consumer prior to receiving the selected consumer information elements from the host server.

42. A computer-readable medium having stored thereon computer-executable instructions for performing the method of claim 41.

43. The method of claim 41, further comprising, in response to authenticating the consumer, invoking a single sign-on mechanism so that the consumer will not be required to resubmit the consumer authentication information upon accessing a subsequent web page file prior to expiration of a time-out period.

44. A computer-readable medium having stored thereon computer-executable instructions for performing the method of claim 43.

45. The method of claim 41, wherein the server-side application receives vendor authentication information from a vendor server on which it is executed; and

wherein the server-side application transmits the vendor authentication information to the host server for authentication of the vendor prior to receiving the selected consumer information elements from the host server.

46. The method of claim 36, wherein the selected consumer information elements are transmitted to the server-side application in an encrypted format; and

wherein the server-side application decrypts the selected consumer information elements.

47. The method of claim 36, wherein the selected consumer information elements are transmitted to the server-side application in a decrypted format via a secure network connection.

48. The method of claim 36, wherein the consumer information elements are stored in the central data repository in a tagged data format

49. The method of claim 36, wherein processing the selected consumer information elements comprises using the selected consumer information elements to complete a transaction; and

wherein the method further comprises transmitting transaction information to the host server for storage in a transaction log.

54. The method of claim 50, wherein the selected consumer information elements are transmitted to the client-side application in a decrypted format via a secure network connection.

55. The method of claim 50, wherein the consumer edits at least one of the auto-populated consumer information elements;

wherein the client-side application detects that the at least one auto-populated consumer information elements has been edited; and

wherein, in response to an update command issued by the consumer, the client-side application transmits the at least one edited auto-populated consumer information elements to the host server for updating of the information account.

56. A computer-readable medium having stored thereon computer-executable instructions for performing the method of claim 55.

57. The method of claim 50, wherein the consumer information elements are stored in the central data repository in a tagged data format

61. The system of claim 60, wherein the browser displays a web page file that has been retrieved from a vendor server, the web page file including an instruction that causes the browser to request transmission of the client-side application from the host server.

62. The system of claim 61, wherein the client-side application receives the selected consumer information elements from the host server and integrates the selected consumer information elements into the web page file on behalf of the consumer.

63. The system of claim 62, wherein integrating the selected consumer information elements into the web page file comprises:

auto-populating the selected consumer information elements into at least one input field of the web page file.

64. The system of claim 63, wherein the consumer interacts with the browser in order to submit the web page file that has been auto-populated with the selected consumer information elements to the vendor server for processing of the selected consumer information elements.

65. The system of claim 64, wherein the consumer edits at least one of the auto-populated selected consumer information elements before submitting the web-page file to the vendor server;

wherein the client-side application detects that the at least one auto-populated selected consumer information elements has been edited; and

wherein the client-side application transmits the at least one edited auto-populated selected consumer information elements to the host server for updating of the information account.

66. The system of claim 64, wherein the consumer inputs at least one additional consumer information element before submitting the web-page file to the vendor server;

wherein the client-side application detects that the at least one additional consumer information element has been input; and

auto-populating the selected consumer information elements into at least one input field of the web page file;

transmitting the auto-populated web page file to the browser for display to the consumer; and

in response to a submit command received from the browser, passing the selected consumer information elements to a processing module executed by the vendor server.

74. The system of claim 73, wherein the consumer edits at least one of the auto-populated selected consumer information elements before issuing the submit command;

wherein the server-side application detects that the at least one auto-populated selected consumer information elements has been edited; and

wherein the server-side application transmits the at least one edited auto-populated selected consumer information elements to the host server for updating of the information account.

75. The system of claim 73, wherein the consumer inputs at least one additional consumer information element before issuing the submit command;

wherein the server-side application detects that the at least one additional consumer information element has been input; and

wherein the server-side application transmits the at least one additional consumer information element to the host server for storage in the information account.

76. The system of claim 58, wherein the consumer information elements are stored in the central data repository in a tagged data format.

77. The system of claim 76, wherein retrieving the selected consumer information elements from the information account comprises filtering the consumer information elements of the information account using at least one style sheet.

78. The system of claim 58, wherein the host server further executes computer-executable instructions for:

in response to transmitting the selected consumer information elements to the network device, receiving an acknowledgment from the network device indicating that the selected consumer information elements were used to complete a transaction, the acknowledgment including transaction information; and

storing the transaction information in a transaction log associated with the information account in the central data repository.

79. In or for a system for storing, managing and distributing consumer information via a network, a propagated signal carrying thereon a tagged data stream representing consumer information elements that have been filtered from an information account, stored in a central data repository, in response to a request for the consumer information elements from a client device, the client device executing a browser accessing a web page that prompts for input of the consumer information elements.

80. In or for a system for storing, managing and distributing consumer information, a propagated signal carrying thereon a data structure comprising:
a client-side application configured for managing communications between a client device and a database management system, stored on a host server, that accesses an information account comprising consumer information elements associated with a consumer stored in a central data repository.

81. The propagated signal of claim 80, wherein the client device executes a browser for accessing a web page file that prompts for input of selected consumer information elements; and

wherein the client-side application requests the selected consumer information elements from the database management system, which accesses the information account to retrieve the selected consumer information elements and returns the selected consumer information elements to the client-side application.

82. The propagated signal of claim 81, wherein the client-side application submits consumer authentication information along with the request for the selected consumer information elements; and

wherein prior to retrieving the selected consumer information elements from the information account, the database management system authenticates the consumer based on the authentication information.

83. The propagated signal of claim 82, wherein in response to authenticating the consumer, a single sign-on mechanism is invoked so that the consumer will not be required to resubmit the consumer authentication information upon accessing a subsequent web page file prior to expiration of a time-out period.

84. A system for storing, managing and distributing consumer information comprising:

a means for centrally storing an information account comprising a plurality of tagged consumer information elements associated with a consumer;

means for hosting a database management system configured to create, update or delete the consumer information elements;

means for managing communications between the database management system and a network device across a distributed electronic network, said means being configured to request selected consumer information elements from the database management system, receive the selected consumer information elements from the database management system, and transmit the selected consumer information elements across the distributed electronic network for use by the network device.

85. The system of claim 84, wherein the means for managing communications between the database management system and the network device is configured to submit consumer authentication information along with the request for selected consumer information elements; and

wherein the database management system is further configured to access the information account to authenticate the consumer based on the authentication information.

86. The system of claim 84, wherein the network device comprises a client device executing a browser;

87. The system claim 84, wherein the network device comprises a vendor server interacting with a client device.

88. A computer-implemented method for storing, managing and distributing user information via a distributed electronic network, the method comprising the steps of:

storing a user personal information account within a central data repository accessible via the distributed electronic network, the user personal information account comprising a plurality of information elements relating to a user;

receiving, via the distributed electronic network, a first request from a first network device for selected information elements in the user personal information account for use by a first client-side application program, the first request being made by the first network device responsive to a first input command supplied by the user;

in response to the first request, retrieving the selected information elements from the user personal information account and transmitting the selected information elements, via the distributed electronic network, to the first network device;

receiving, via the distributed electronic network, a second request from a second network device for selected information elements in the user personal information account for use by a second client-side application program, the second request being made by the second network device responsive to a second input command supplied by the user; and

in response to the second request, retrieving the selected consumer information elements from the user personal information account and transmitting the selected consumer information elements, via the distributed electronic network, to the second network device.

89. The method of claim 88, wherein at least one of the first request and second request for selected information elements in the user personal information account includes user authentication information; and

wherein the method further comprising, prior to retrieving the selected information elements from the user personal information account, the step of authenticating the user based on the authentication information.

92. The method of claim 90, further comprising the step of receiving, at the provider web site and over the distributed electronic network, an electronic form from the network device, said electronic form comprising one or more of the selected information elements embedded therein by the client-side application program.

93. The method of claim 90, wherein the request for selected information elements in the user personal information account includes user authentication information; and

wherein the method further comprising, prior to retrieving the selected information elements from the user personal information account, the step of authenticating the user based on the authentication information.

94. A computer-implemented method for storing, managing and distributing consumer information via a distributed electronic network, the method comprising the steps of:

storing an information account in a central data repository accessible via the distributed electronic network, the information account comprising a plurality of tagged consumer information elements associated with a consumer and being subject to the consumer's control and management;

receiving, over the distributed electronic network, a plurality of requests from a network device for different combinations of selected consumer information elements; and

in response each of the requests, retrieving the selected consumer information elements from the information account and transmitting the selected consumer information elements, as tagged data streams, to the network device over the distributed electronic network.

95. The method of claim 94, wherein said requests are made by the network device in response to input commands supplied by the consumer.